

Table 1: New Booster Parameters (09/19/00)

Circumference (m)	711.32
Super-periodicity	3
Number of straight sections	3
Length of each arc (m)	165.2
Length of each straight section (m)	71.9
Injection kinetic energy (MeV)	400
Extraction kinetic energy (GeV)	16
Injection dipole field (T)	0.08464
Peak dipole field (T)	1.5
Bending radius (m)	37.6
Maximum quad gradient (T/m)	8.7494
Number of arc dipoles	36 (long) 12 (short)
Number of arc quads	75
Max β_x, β_y (m)	30.5, 24.8 (arc) 37.8, 37.6 (straight)
Min β_x, β_y (m)	1.2, 3.9 (arc) 5.1, 3.9 (straight)
Max D_x (m)	2.82
Min D_x (m)	-1.73
Transition γ_t	40.34
Horizontal, vertical tune	11.41, 11.40
Natural ξ_x, ξ_y	-18.2, -14.8
Revolution time at injection, extraction (μ s)	3.3, 2.4
Injection time (μ s)	90
Injection turns	27
Laslett tune shift at injection	0.36
Normalized transverse emittance (mm-mrad)	
Injection beam (95%)	3π
Circulating beam (100%)	60π
Longitudinal emittance (95%, eV-s)	
Injection beam	0.1
Extraction beam	0.4
Extracted bunch length σ_t (rms, ns)	3
Momentum spread at extraction (95%)	$\pm 0.8\%$
Momentum acceptance	$\pm 2.5\%$
Dynamic aperture	$> 100\pi$